NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
VIRGINIA STANDARD SUPPLEMENT

RESIDUE MANAGEMENT, SEASONAL

(Acre)

CODE 344

SPECIFICATIONS

Management of Residue

The amount of residue required for this practice standard will be based on the desired reduction in soil loss attributed directly to the crop residue. The amount of residue needed can be determined using the Revised Universal Soil Loss Equation (RUSLE).

The following amounts of crop residues are approximately equal in effectiveness and give optimum erosion control:

Corn:	6,000 pounds
Small Grain:	4,000 pounds
Soybeans:	4,000 pounds
Killed Sod	3,000 pounds

Residue may be left unshredded, shredded, chiseled, or disked in the fall, winter or spring. Kill residue no earlier than 30 days before planting.

Additional Considerations

1. In order to retain the required amounts of residues on the surface, special consideration should be given to all types of conservation tillage.

2. Residue management provides significant food and cover value for wildlife, especially when compared to fall plowing. See the Conservation Practice Standard for Upland Wildlife Habitat Management (645) for detailed discussion.

Methods for Estimating Amounts of Crop Residue

A. Table 1, "Estimate of Residue Production", provides conversion factors for determining the amount of residue produced by different crops. To determine the amount of residue available, determine the crop yield and multiply the yield by the appropriate factor.

TABLE 1
ESTIMATE OF RESIDUE PRODUCTION

CROP	UNIT	CONVERSION FACTORS*
Corn	bu.	75
Grain Sorghum	lbs.	1.35
Soybeans	bu.	60
Wheat	bu.	100
Barley	bu.	70
Oats	bu.	80
Rye	bu.	90
Peanuts	lbs.	1.14
Cotton	bale	5

Example: A corn field yields 100 bu. per acre. How many pounds of residue are available? (100 bu.) x the conversion factor of 75 = 7500 pounds of corn residue on the surface.

* Estimates vary by climate, variety, management, etc.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

B. Table 2 provides information on the reduction of crop residue amounts when different tillage tools are used.

TABLE 2
REDUCTION OF SURFACE RESIDUE

TILLAGE OPERATION	PERCENT OF CROP RESIDUE REMAINING AFTER TILLAGE**	
	Non-Fragile	**Fragile**
Chisel Plow, Straight Shanks	60-80	40-60
Chisel Plow, Twisted Shanks	50-70	30-40
Field Cultivator, With Sweeps	70-80	50-60
Tandem Disk After Harvest & Before Other Tillage	70-80	40-50
Tandem Disk after Previous Tillage	40-70	25-40
Moldboard Plow Over Winter	0-10	0-5
Decomposition	80-95	70-80
No-Till Planting	85-95	75-85

Example: Assume the corn field with the 9,000 pounds of residue on the soil surface is chisel plowed with straight shanks. The residue remaining is (9,000 pounds) x (80%) = 7,200 pounds of residue left on the soil surface. Assume that it is then disked once with a tandem disc in preparation for planting. The residue remaining is (7,200 pounds) x (50%) = 3,600 pounds.

** These values were determined primarily with corn and small grain residues. The lower end of the percentage range listed corresponds to fragile residues, such as the residue from soybeans. The upper end of the percentage range listed corresponds to such non-fragile residues as corn and small grain.

C. Determine surface residue cover using the line-transect method. The line-transect method is statistically reliable. Take three measurements typical of the field and average to get the percent residue cover for the field. It is very important that the person making the measurements look straight down on each tab or marker, and take all readings on the same side of the cam-line or tape so that consistency can be maintained.

A plus or minus of 5% deviation from the planned percent of residue cover is permissible.

LINE-TRANSECT METHOD: A 100 foot tape, or 100 foot cam-line, is stretched diagonally across the rows. Check every foot mark to see if that point touches a piece of residue. The total number of points that touches a piece of residue will represent the percent of residue cover that is in the field.

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

RESIDUE MANAGEMENT, SEASONAL

(Acre)

CODE 344

SUPPORTING DATA AND DOCUMENTATION

Record and maintain the following:

1. Field location: Tract/parcel/ID number and field number.

2. Acres of field.

3. Residue type and the amount of residue required by RUSLE.

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

RESIDUE MANAGEMENT, SEASONAL

(Acre)

CODE 344

REFERENCES

1. Agriculture Handbook, 703: "Predicting Rainfall Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)".

2. NRCS Conservation Practice Standard Upland Wildlife Habitat Management - Code 645.

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

RESIDUE MANAGEMENT, SEASONAL

(Acre)

CODE 344

APPROVED PRACTICE NARRATIVES

344 A1: RESIDUE MANAGEMENT, SEASONAL: Crop residue will be managed during the part of the year from harvest until the residue is buried by tillage for seedbed preparation. At least 60% of the soil surface will remain covered betweeen harvest and seedbed preparation.